

What is claimed is:

1. A signal crosstalk inhibition unit provided to a signal processing apparatus having a plurality of external terminals and signal lines connected to said external terminals, by connecting a signal cable to said signal processing apparatus with inserting a connection terminal of said signal cable into an external terminal, signal being inputted into a signal line and/or outputting signal from said signal line;

    said signal crosstalk inhibition unit having a first switching element provided between said signal line and the ground, and a connection terminal detection means for detecting whether said connection terminal of said signal cable is connected to said external terminal of said signal processing apparatus or not, and

    said signal crosstalk inhibition unit making said first switching element into conductive state to connect said signal line to the ground, when said connection terminal detection means does not detect said connection terminal of said signal cable, and

    said signal crosstalk inhibition unit making said first switching element into unconductive state when said connection terminal detection means detects said connection terminal of said signal cable.

2. A signal crosstalk inhibition unit claimed in Claim 1, wherein said first switching element is constituted of a first semiconductor switching element and said first semiconductor switching element is connected such that an input terminal of said first semiconductor switching element is connected to said signal line and an output terminal of said first semiconductor switching element is grounded and a path between said

input terminal and said output terminal is made into conductive state in case of a control voltage being applied to a control terminal of said first semiconductor switching element and said path between said input terminal and said output terminal is made into unconductive state in case of said control voltage not being applied to said control terminal,

and further having a second switching element that has one terminal and other terminal and that is connected such that said control voltage of said first semiconductor switching element is inputted to said one terminal of said second switching element and said other terminal of said second switching element is grounded,

wherein said second switching element is connected such that said path between said one terminal and said other terminal of said second switching element becomes conductive in case said connection terminal detection means detects said connection terminal of said signal cable, and said path between said one terminal and said other terminal of said second switching element becomes unconductive in case said connection terminal detection means does not detect said connection terminal of said signal cable, and

wherein in case said connection terminal detection means detects said connection terminal of said signal cable, said second switching element becomes conductive and said control voltage is lead to the ground, and said first semiconductor switching element becomes unconductive, and

wherein in case said connection terminal detection means does not detect said connection terminal of said signal cable, said second switching element becomes unconductive and said first semiconductor switching

element becomes conductive.

3. A signal crosstalk inhibition unit claimed in Claim 2, wherein said connection terminal detection means is constituted such that whether said connection terminal of said signal cable is inserted to said external terminal of said signal processing apparatus or not is detected by a position of a detection element which is physically displaced between a first position and a second position, and

wherein said second switching element becomes unconductive in case said connection terminal of said signal cable is not inserted to said external terminal of said signal processing apparatus and said detection element is placed at said first position, and

wherein said second switching element becomes conductive in case said connection terminal of said signal cable is inserted to said external terminal of said signal processing apparatus and said detection element is placed at said second position.

4. A signal processing apparatus having a plurality of external terminals and signal lines connected to said external terminals, by connecting a signal cable to said signal processing apparatus with inserting a connection terminal of said signal cable into an external terminal, signal being inputted into a signal line and/or outputting signal from said signal line;

said signal processing apparatus provided between said signal line and the ground that has a connection terminal detection means for detecting whether said connection terminal of said signal cable is inserted into said external terminal or not, and

said signal crosstalk inhibition unit making said first switching element into conductive state to connect said signal line to the ground, when said connection terminal detection means does not detect said connection terminal of said signal cable, and

    said signal crosstalk inhibition unit making said first switching element into unconductive state when said connection terminal detection means detects said connection terminal of said signal cable.

5. A signal processing apparatus claimed in Claim 4, wherein said first switching element is constituted of a first semiconductor switching element and said first semiconductor switching element is connected such that an input terminal of said first semiconductor switching element is connected to said signal line and an output terminal of said first semiconductor switching element is grounded; and a path between said input terminal and said output terminal is made into conductive state in case of a control voltage being applied to a control terminal of said first semiconductor switching element; and said path between said input terminal and said output terminal is made into unconductive state in case of said control voltage not being applied to said control terminal,

    and further provided with a second switching element, which is provided in said signal crosstalk inhibition unit, having one terminal and other terminal and connected being such that said control voltage of said first semiconductor switching element is inputted to said one terminal of said second switching element and connected being such that said other terminal of said second switching element is grounded, and

    wherein said second switching element is connected such that said path

between said one terminal and said other terminal of said second switching element becomes conductive in case said connection terminal detection means detects said connection terminal of said signal cable, and said path between said one terminal and said other terminal of said second switching element becomes unconductive in case said connection terminal detection means does not detect said connection terminal of said signal cable, and

wherein in case said connection terminal detection means detects said connection terminal of said signal cable, said second switching element becomes conductive and said control voltage is lead to the ground, and said first semiconductor switching element becomes unconductive, and wherein in case said connection terminal detection means does not detect said connection terminal of said signal cable, said second switching element becomes unconductive and said first semiconductor switching element becomes conductive.

6. A signal processing apparatus claimed in Claim 5, wherein said connection terminal detection means is constituted such that whether said connection terminal of said signal cable is inserted to said external terminal of said signal processing apparatus or not is detected by a position of a detection element which is physically displaced between a first position and a second position, and

wherein said second switching element becomes unconductive in case said connection terminal of said signal cable is not inserted to said external terminal of said signal processing apparatus and said detection element is placed at said first position, and

wherein said second switching element becomes conductive in case said connection terminal of said signal cable is inserted to said external terminal of said signal processing apparatus and said detection element is placed at said second position.

7. A signal processing apparatus claimed in Claims 4, 5 and 6, wherein said crosstalk inhibition units are disposed for a plurality of external terminals and signal lines connected to said external terminal.